

WHAT IS CLAIMED IS:

1 1. For use in a telecommunications system having a source base station and a
2 destination base station where a specified mobile station establishes a connection with
3 the source base station, a method comprising:

4 initiating at the destination base station a preliminary portion of a handover
5 sequence for the specified mobile station, the preliminary portion of the handover
6 sequence including uplink radio synchronization with respect to the specified mobile
7 station; and then subsequently

8 initiating at the destination base station another portion of a handover sequence
9 for the specified mobile station.

1 2. For use in a telecommunications system having a source base station and a
2 destination base station where a specified mobile station establishes a connection with
3 the source base station, a method comprising:

4 initiating at the destination base station a preliminary portion of a handover
5 sequence for the specified mobile station; and then subsequently

6 initiating at the destination base station another portion of a handover sequence
7 for the specified mobile station;

8 the preliminary portion of the handover sequence involving an operation
9 between the destination base station and the specified mobile station that are more time
10 critical than operations performed during the another portion of the handover sequence.

1 3. The method of claim 1 or claim 2, further comprising:

2 initiating the preliminary portion of the handover sequence upon receipt of a first
3 measurement report from the specified mobile station; and

4 initiating the another portion of the handover sequence upon receipt of a second
5 measurement report from the specified mobile station.

1 4. The method of claim 3, wherein upon receipt of the first measurement report
2 from the specified mobile station, a control node allocates uplink resources for the
3 specified mobile station to communicate with the destination base station.

1 5. The method of claim 3, wherein the first measurement report from the
2 specified mobile station and the second measurement report from the specified mobile
3 station include differing values of a signal quality measurement of a pilot signal from
4 the destination base station as received by the specified mobile station.

1 6. The method of claim 1 or claim 2, wherein the preliminary portion of the
2 handover sequence comprises one or more of the following:

- 3 (1) sending an uplink setup request message from a control node to the
4 destination base station;
- 5 (2) turning on a receiver at the destination base station to listen to the specified
6 mobile station;
- 7 (3) performing uplink radio synchronization with respect to the specified mobile
8 station and the destination base station; and,
- 9 (4) sending a mobile station detected message from the destination base station
10 to the control node.

1 7. The method of claim 1 or claim 2, wherein the another portion of the
2 handover sequence comprises remaining events of a convention handover sequence
3 which were not included in the preliminary portion of the handover sequence.

1 8. The method of claim 1 or claim 2, wherein the another portion of the
2 handover sequence comprises one or more of the following:

- 3 (1) sending a downlink setup request message from a control node to the
4 destination base station;
- 5 (2) performing a radio link setup operation at the destination base station for the
6 specified mobile station;
- 7 (3) sending an active set update message from the control node to the specified
8 mobile station;
- 9 (4) establishing a user data transfer connection between the control node and the
10 destination base station;
- 11 (5) transferring user data between the control node and the destination base
12 station;
- 13 (6) turning on a transmitter at the destination base station to transmit to the
14 specified mobile station;

15 (7) performing a power ramping operation between the destination base station
16 and the specified mobile station;
17 (8) performing a downlink synchronization operation between the destination
18 base station and the specified mobile station;
19 (9) sending an active set update complete message from the control node to the
20 uplink radio synchronization with respect to the specified mobile station and
21 the destination base station;
22 (10) sending a mobile station detected message from the specified mobile station
23 to the destination base station; and
24 (11) sending a radio link restore indication message from the destination base
25 station to the control node.

1 9. A telecommunications system comprising a control node and a destination
2 base station, characterized in that:

3 the control node initiates at the destination base station a preliminary portion of a
4 handover sequence for the specified mobile station, and then subsequently initiates at
5 the destination base station another portion of the handover sequence for the specified
6 mobile station;

7 the destination base station, in performing the preliminary portion of the
8 handover sequence, performs uplink radio synchronization with respect to the specified
9 mobile station.

1 10. A telecommunications system comprising a control node and a destination
2 base station, characterized in that:

3 the control node initiates at the destination base station a preliminary portion of a
4 handover sequence for the specified mobile station, and then subsequently initiates at
5 the destination base station another portion of the handover sequence for the specified
6 mobile station;

7 the destination base station, in performing the preliminary portion of the
8 handover sequence, performs operations which are more time critical than operations
9 included in the another portion of the handover sequence.

1 11. The apparatus of claim 9 or claim 10, wherein the control node initiates the
2 preliminary portion of a handover sequence for the specified mobile station upon
3 receipt of a first measurement report from a specified mobile station; and wherein the

4 control node initiates the another portion of the handover sequence for the specified
5 mobile station upon receipt of a second measurement report from the specified mobile
6 station.

1 12. The apparatus of claim 11, wherein upon receipt of the first measurement
2 report from the specified mobile station, a control node allocates uplink resources for
3 the specified mobile station to communicate with the destination base station.

1 13. The apparatus of claim 11, wherein the first measurement report from the
2 specified mobile station and the second measurement report from the specified mobile
3 station include differing values of a signal quality measurement of a pilot signal from
4 the destination base station as received by the specified mobile station.

1 14. The apparatus of claim 9 or claim 10, wherein the preliminary portion of
2 the handover sequence comprises one or more of the following:

- 3 (1) receiving at the destination base station an uplink setup request message sent
4 from the control node;
- 5 (2) turning on a receiver at the destination base station to listen to the specified
6 mobile station;
- 7 (3) performing uplink radio synchronization with respect to the specified mobile
8 station and the destination base station; and,
- 9 (4) sending a mobile station detected message from the destination base station
10 to the control node.

1 15. The apparatus of claim 9 or claim 10, wherein the another portion of the
2 handover sequence comprises remaining events of a convention handover sequence
3 which were not included in the preliminary portion of the handover sequence.

1 16. The apparatus of claim 9 or claim 10, wherein the another portion of the
2 handover sequence comprises one or more of the following:

- 3 (1) receiving from the destination base station a downlink setup request message
4 sent from a control node;
- 5 (2) performing a radio link setup operation at the destination base station for the
6 specified mobile station;

- 7 (3) sending an active set update message from the control node to the specified
8 mobile station;
- 9 (4) establishing a user data transfer connection between the control node and the
10 destination base station;
- 11 (5) transferring user data between the control node and the destination base
12 station;
- 13 (6) turning on a transmitter at the destination base station to transmit to the
14 specified mobile station;
- 15 (7) performing a power ramping operation between the destination base station
16 and the specified mobile station;
- 17 (8) performing a downlink synchronization operation between the destination
18 base station and the specified mobile station;
- 19 (9) sending an active set update complete message from the control node to the
20 uplink radio synchronization with respect to the specified mobile station and
21 the destination base station;
- 22 (10) sending a mobile station detected message from the specified mobile station
23 to the destination base station; and
- 24 (11) sending a radio link restore indication message from the destination base
25 station to the control node.

1 17. The apparatus of claim 9 or claim 10, wherein the control node is a radio
2 network control (RNC) node of a radio access network.